CANDIDATE AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: Indigofera mucronata Spreng. ex DC. var. keyensis (Small) Isley

COMMON NAME: Florida indigo or Key's indigo

LEAD REGION: 4

INFORMATION CURRENT AS OF: January 5, 2001

STATUS/ACTION (Check all that apply):
___ New candidate
_X_ Continuing candidate
    _X_ Non-petitioned
    ___ Petitioned - Date petition received: ___
        ___ 90-day positive - FR date: ___
        ___ 12-month warranted but precluded - FR date: ___
        _ Is the petition requesting a reclassification of a listed species?
    ___ Listing priority change
        Former LP: ___
        New LP: ___
___ Candidate removal: Former LP: ___ (Check only one reason)
    ___ A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.
    ___ F - Range is no longer a U.S. territory.
    ___ M - Taxon mistakenly included in past notice of review.
    ___ N - Taxon may not meet the Act's definition of "species."
    ___ X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Plant - Fabaceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Florida

CURRENT STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Florida

LEAD REGION CONTACT (Name, phone number): Lee Andrews, 404/679-7217

LEAD FIELD OFFICE CONTACT (Office, name, phone number): Vero Beach, Florida Field Office, Dave Martin, 561/562-3909 ext. 230

BIOLOGICAL INFORMATION (Describe habitat, historic vs. current range, historic vs. current population estimates (# populations, # individuals/population), etc.):

Indigofera mucronata var. keyensis is a scrambling to erect annual or probably perennial herb up to 1 meter (3 feet) tall. The leafstalk is usually 1.5 to 2.5 centimeters long. Leaves usually have 5 leaflets in pairs. The flowers are typical of peas, with the corolla 6 to 7 millimeters long. The pod is 3 to 4.5 centimeters long. Contrary to some reports in the literature, this plant is not a vine. The reports are probably based on misidentified specimens of Indigofera miniata (Bradley and Gann 1999). Such misidentifications are probably also the source of reports in the literature (Austin 1980, Isely 1990) to the effect that this is a common, weedy species (Bradley and Gann 1999). Bradley and Gann also note that the nomenclature for this taxon needs further study. The name Indigofera trita ssp. scabra is accepted by the Institute for Systematic Botany's Atlas of Florida Plants compiled by Richard Wunderlin at the University of South Florida [checked Jan. 18, 2001]. If this proves to be the correct name for this plant, the nomenclature must be reviewed to see if the Florida Keys plants can be recognized as a distinct variety within the subspecies.

Indigofera mucronata var. keyensis was historically distributed in the upper and middle Florida Keys from Key Largo to Knight Key. It has been collected or reported on 11 islands, including Crawl Key, Key Largo, Knight Key, Lignumvitae Key, Long Key, Long Point Key, Lower Matecumbe Key, Plantation Key, Upper Matecumbe Key, Vaca Key, and Windley Key. It is currently known only from Crawl Key, Key Largo, Long Key, Long Point Key, Plantation Key, and Windley Key. Indigofera mucronata var. keyensis has been found on three State parks: John Pennecamp Coral Reef State Park, Long Key State Park, and Windley Key Fossil Reef State Geological Site. A fourth population of 3 to 4 plants is on private, unprotected land at Long Point Key. This species was not found at one of these sites during a study conducted by Ross and Ruiz (1996), possibly due to lack of specific location information in the collection notes. The total number of plants is estimated at between 101 and 1,000 (Ross and Ruiz 1996; Bradley and Gann 1999).

Indigofera mucronata var. keyensis is found at edges of rockland hammock (Small 1933), coastal berm, and rock barren communities in the upper Florida Keys (Bradley and Gann 1999). "Coastal rock barren is an open community with no tree canopy and a sparse subcanopy of understory hardwoods. Most of the area is composed of exposed Key Largo Limestone with diverse assemblage of herbaceous plant taxa, many of which are halophytes. The origin of this community is not understood. It seems possible that periodic storm events are responsible for maintaining coastal rock barrens." (Bradley and Gann 1999).

THREATS (Describe threats in terms of the five factors in section 4 of the ESA providing specific, substantive information. **If this is a removal of a species from candidate status or a change in listing priority, explain reasons for change**):

A. The present or threatened destruction, modification, or curtailment of its habitat or range. This species has been extirpated from the Lower and Upper Matecumbe Keys. Only six occurrences of Indigofera mucronata var. keyensis are currently known and probably no

more than 1,000 individuals exist. "The coastal rock barrens where populations occur at Long Key State Recreation Area [and] Windley Key Fossil Reef State Geological Site are being invaded by native and exotic hardwoods. The exotic hardwoods on these sites should be controlled." (Bradley and Gann 1999).

B. Overutilization for commercial, recreational, scientific, or educational purposes. None are known.

C. Disease or predation. None are known.

D. The inadequacy of existing regulatory mechanisms. The Florida Department of Agriculture and Consumer Services has designated Indigofera keyensis as endangered under Chapter 5B-40, Florida Administrative Code. This listing provides little or no habitat protection beyond the State's Development of Regional Impact process, which serves to disclose impacts from projects, but provides no regulatory protection for State-listed plants on private lands. Without local or county ordinances preventing the destruction of the plant, conservation does not occur.

E. Other natural or manmade factors affecting its continued existence. Exotic plant taxa negatively affect Indigofera mucronata var. keyensis throughout its range. At least 162 taxa of exotic plants are now known to invade Indigofera mucronata var. keyensis habitat (U.S. Fish and Wildlife Service 1998). On Long Point Key, encroaching Brazilian pepper (Schinus terebinthifolius) threatens to close over the opening where a small population of Indigofera mucronata var. keyensis occurs. It is unlikely this population will survive another decade under current conditions (Ross and Ruiz 1996). Latherleaf (Colubrina asiatica) could also severely affect this species (Bradley and Gann 1999). Management of exotic plant invasion is crucial to the conservation of the species. Without proper control and eradication of these exotic plants, they become tall and dense creating a non-conducive environment for Indigofera mucronata var. keyensis.

Given the species' narrow range and the small number of individuals, Indigofera mucronata var. keyensis is vulnerable to natural events such as hurricanes and tropical storms. Either one of these events could extirpate existing populations–or rehabilitate coastal barrens habitat.

BRIEF SUMMARY OF REASONS FOR REMOVAL OR LISTING PRIORITY CHANGE:

FOR RECYCLED PETITIONS:

a. Is listing still warranted? ___
b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? ___
c. Is a proposal to list the species as threatened or endangered in preparation? ___
d. If the answer to c. above is no, provide an explanation of why the action is still precluded.

LAND OWNERSHIP (Estimate proportion Federal/state/local government/private, identify non-private owners): Three of six occurrences of Indigofera mucronata var. keyensis are in State Park properties: John Pennecamp Coral Reef State Park, Long Key State Recreation Area, and Windley Key Fossil Reef State Geological Site. A fourth population is on private land at Long Point Key.

PRELISTING (Describe status of conservation agreements or other conservation activities): Although the Indigofera mucronata var. keyensis populations located on public lands are protected from development, they are still under threat from exotic vegetation. There are no specific conservation activities for Indigofera mucronata var. keyensis on public lands. There are no current conservation activities for the one Indigofera mucronata var. keyensis population on private land.

The Service has developed a multi-species recovery plan for the threatened and endangered species of South Florida. This plan is ecosystem-based and includes many recommendations for conservation of the communities where Indigofera mucronata var. keyensis occurs (U.S. Fish and Wildlife Service 1999).

REFERENCES (Identify primary sources of information (e.g., status reports, petitions, journal publications, unpublished data from species experts) using formal citation format):

Austin, D. 1980. Endangered and threatened plant species survey in southern Florida and the National Key Deer and Great White Heron National Wildlife Refuges, Monroe county, Florida. Report submitted to the U.S. Fish and Wildlife Service, Atlanta, Georgia.

Isley, D. 1990. Vascular flora of the southeastern United States. Leguminosae (Fabaceae). Vol. 3, part 2. University of North Carolina Press, Chapel Hill [cited in Bradley and Gann 1999].

Ross, M.S. and P.L. Ruiz. 1996. A study of the distribution of several South Florida endemic plants in the Florida Keys. A report to the U.S. Fish and Wildlife Service. Florida International University, Southeast Environmental Research Program, University Park, Miami.

Small, J.K. 1933. Manual of the Southeastern flora. The University of North Carolina Press, Chapel Hill.

The Nature Conservancy. 1999. BioSource; National Heritage database.

U.S. Census Bureau. 1998. State and Metropolitan Area Data Book 1997-1998.

U.S. Fish and Wildlife Service. 1998. Draft multi-species recovery plan for South Florida, volume II. Vero Beach, Florida.

LISTING PRIORITY (place * after number)

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5
		Subspecies/population	6*
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all additions of species to the candidate list, annual retentions of candidates, removal of candidates, and listing priority changes.

Approve: _____ _____
Regional Director, Fish and Wildlife Service Date

Concur: _____ _____
Director, Fish and Wildlife Service Date

Do not concur: _____ _____
Director, Fish and Wildlife Service Date

Director's Remarks: _____

_____

Date of annual review: January 17, 2001

Conducted by: Dave Martin - Vero Beach, Florida FO

Changes from October 25, 1999 CNOR(check one) Yes X No

Approval: _____ _____
Regional Director Dated

Comments:

(rev. 6/00)